

## **IPEDS Statutory Requirements, Data Collection Procedures, Universe, Levels of Analysis, and Missing Data**

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This module provides information about the statutory requirements for reporting Integrated Postsecondary Education Data System, or IPEDS data, as well as the process by which institutions provide data to IPEDS. It also describes the IPEDS universe. Additionally, it describes how missing data are handled in IPEDS; specifically, the imputation flags that must be downloaded to know which missing data were estimated through imputation.

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The completion of all IPEDS surveys, in a timely and accurate manner, is mandatory for all institutions that participate or are applicants for participation in any Federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended. The collection and reporting of racial/ethnic data are mandatory for all institutions that receive, are applicants for, or expect to be applicants for Federal financial assistance as defined in the Department of Education regulations implementing Title VI of the Civil Rights Act of 1964, or defined in any ED regulations implementing Title IX of the Education Amendments of 1972. In addition, the collection of racial/ethnic data in vocational programs is mandated by the Carl D. Perkins Vocational Education Act. The reporting of racial/ethnic and gender data for institutional staff in odd-numbered years on the IPEDS Human Resources component is also mandated by Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, for institutions with 15 or more full-time employees.

For those institutions not required to complete IPEDS on the basis of any of these requirements, completion is voluntary and authorized by the National Education Statistics Act of 1994. IPEDS data are not collected under a pledge of confidentiality. More details on the statutory requirements for reporting IPEDS data are available by clicking on the link shown.

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To complete the required surveys, respondents from institutions enter data into the IPEDS Data Collection System, either by direct entry or file upload. Next, IPEDS runs a series of edit checks, which may result in the identification of a list of issues that must be resolved by respondents before the particular survey can be 'locked.' Once all of the edits have been resolved, the surveys are locked by the respondents, indicating that the data are complete and correct.

After data are locked for a particular survey, they are moved to the Collection Level Center for quality control, or QC, procedures to ensure that the edit system is working

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properly, that data have migrated correctly, and that institutions with data anomalies have provided valid explanations to verify the anomalies. When the QC results have been reviewed and accepted, the data are moved to the Preliminary Release Data section of the IPEDS website for access by the public.

Preliminary Data does not include imputed data for nonresponding institutions, and should not be used to provide aggregate estimates. A First Look publication based on Preliminary Data is released in conjunction with the Preliminary Data being made publicly available on the IPEDS website.

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Preliminary release data are then subject to further NCES quality control procedures. After all quality control procedures are complete and data are imputed for nonresponding institutions, the data are moved to the Provisional Release Data section of the IPEDS website for access by the public. The First Look publication is reissued based on the Provisional Data. Institutions may submit revisions to data in the subsequent data collection year. After editing of these revisions is complete, final data are made public on the Final Data section of the IPEDS website. The First Look publication is not reissued based on final data.

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It is important to keep in mind that the IPEDS universe consists of all institutions that fall under the statutory requirements for reporting IPEDS data and respond to the IPEDS surveys in a given Collection Year. Therefore, the IPEDS universe does not include all of the same institutions from year to year. When downloading multiple years of data to analyze trends over time, the EZ Group option allows you to modify the IPEDS universe for each year of interest, so that you can pull only institutions that reported in a given Collection Year. This way, you can avoid producing a data file with a lot of missing data. When you select institutions to create a data file using the EZ Group option, the most recent Data Collection year will be pre-selected for you. For example, the image shown here illustrates that selecting all institutions that reported in 2013 will produce a data file with 7,764 institutions. You can change the Data Collection year by clicking on the “change year” option that appears in parentheses.

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After you click on the “change year” link, a pop-up window appears that allows you to select another year of interest for your data file. For example, the image shown on this screen illustrates that if you choose 2012, the number of institutions that reported changes from 7,764 to 7,735. The EZ Group option is described further in Module 2, Getting Started with the IPEDS Data.

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IPEDS also provides the Trend Generator tool, which allows you to generate tables and graphs to answer common questions about institutional trends over time. The data can be filtered by an institution's sector; degree-granting status; control; level; state; Carnegie classification; and, geographic region.

The IPEDS Trend Generator can be accessed by clicking on the link shown.

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In IPEDS data, information is occasionally missing for an entire institution or a single item. This may occur when an institution is a nonrespondent for a particular survey component because it does not complete the survey, or when an institution has an item nonresponse because it does not provide an answer to a particular survey question. With the exception of the Institutional Characteristics component, all items collected in each component are eligible for imputation. Within the Institutional Characteristics component, only cost of attendance and other institutional charges data are eligible for imputation. There are many ways to handle nonresponse and missing data. NCES typically employs statistical imputation techniques to estimate missing data, so data users should encounter very little data missing due to nonresponse. Imputation allows users of the IPEDS data files to create national totals for institutional data. IPEDS applies the Nearest Neighbor imputation method for both institution and item nonresponse. This procedure identifies a responding institution similar to the nonresponding institution based on key statistics of interest and then uses the respondent's data as a substitute for the nonrespondent's missing items. Additional information about IPEDS imputation is available in the IPEDS Methodology Reports, which are accessible by clicking on the link shown. Information on response rates and the imputations conducted for a particular survey component is included in the First Look reports, which are available at the link shown.

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When you access IPEDS data from the IPEDS website as discussed in Module 2, Getting Started with IPEDS Data, you may either download an entire survey data file or use one of the other options to view a smaller portion of a data file. If you download an entire survey data file, the imputed values are included in the final data file. If you use another option, you will need to select the option for including imputation and status flags when you get to the Output section. The imputation flags indicate that a particular variable was imputed. The status flags indicate the institution's progress toward satisfying reporting requirements.

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Here is a view of the Output section of the Compare Institutions option of the IPEDS website. At the bottom of the screen is the option to include imputation and status flags. You would select 'Yes' to have the imputation and status flags included in the data download.

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This module has described the statutory requirements for reporting IPEDS data, IPEDS data collection process, IPEDS universe and how missing data are handled in IPEDS, specifically the imputation flags that must be downloaded to know which missing data were estimated through imputation. Additionally, important resources that were noted throughout this module are summarized here for your reference.

You may now proceed to the next module in the series or exit the module.